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# Divine foreknowledge and human freedom: exploring a gap-theoretic account

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## Abstract

The recent work of logician Jc Beall marks a paradigm shift within the fields of analytic theology and philosophy of religion. Thanks to Beall's work, the long held (and generally unquestioned) assumption that theology is governed by (or closed under) the classical account of logic, is no longer free for the assumption. More importantly, by dropping this unquestioned commitment to the classical account, Beall's work has uncovered natural and well-motivated solutions to some of monotheistic theologies' most difficult and longstanding problems. That said, much of Beall's work (and the work of others who have followed his lead) has been paraconsistent, utilizing glut-theoretic (contradictory) models to solve theologies problems. In this essay, my plan is to go paracomplete, with the aim of exploring a yet to be explored solution to the infamous foreknowledge and freedom problem. My solution finds its roots in the recent work Jc Beall and Aaron Cotnoir ('God of the Gaps', *Analysis*, 2017). Specifically, in this essay I will explore a gap-theoretic solution to the foreknowledge and freedom problem; one in which it is neither true nor false that God has foreknowledge. By utilizing Beall's and Cotnoir's model — which sees limit claims on God's omni-properties as either just false or gappy — a natural and well-motivated solution to the foreknowledge and freedom problem emerges. Moreover, by utilizing the Beall-Cotnoir gap-theoretic model, not only is the foreknowledge and freedom problem circumvented, but an interesting and novel account of divine omniscience emerges.

**Keywords** Foreknowledge · Freedom · Gap-theoretic · Beall · Cotnoir

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## 1 Introduction

The foreknowledge and freedom problem has long plagued both philosophers and theologians alike. At the core of the problem is a paradox: the existence of an infallible being that knows the future is seemingly incompatible with a strong notion of human freedom. Many solutions have been put forth in an attempt to avoid this problem. As Richard Rice laments, however, “There is no consensus regarding the question of freedom and foreknowledge and not a little frustration that none of the proposed answers seems to work.” (Rice, 2020: 81.)

In this essay, I aim to examine a yet-to-be-explored solution to the foreknowledge and freedom problem that finds its roots in the recent work of Jc Beall and AJ Cotnoir (2017). Specifically, I will explore a gap-theoretic solution, one which results in certain claims (sentences, propositions, etc.) about foreknowledge being gappy (i.e. neither true nor false. More on this terminology below). As a result, not only is the foreknowledge and freedom problem circumvented, but an interesting and novel model of divine omniscience emerges.

In order to achieve this aim, Section 2 first lays out the relevant key terms and assumptions: namely, divine omniscience (foreknowledge) and human freedom. Next, in Section 3, I will lay out the theological fatalist argument (TFA) which gives rise to the foreknowledge and freedom problem, as well as the theological fatalist contradiction (TFC) which makes explicit the inconsistent nature of the principal assumptions. Then, in Section 4, I turn to explicate Beall’s and Cotnoir’s gap-theoretic model for solving omni-problems and extend said model to the foreknowledge and freedom problem. Lastly, I will analyze some virtues of the proposed solution (in Section 5) and address a possible concern (in Section 6).

## 2 Key terms & assumptions

The two assumptions at the core of the theological fatalist argument — divine foreknowledge and human freedom — are ultimately technical concepts, which, for the purposes of a sufficiently robust analysis, would require each their own book-length treatment (indeed, many have been written).<sup>1</sup> Given that this is the case, in what follows, I will restrict my analysis of these concepts to only those details which will be relevant to the foreknowledge and freedom problem discussed below. First, in Section 2.1, I will provide a quick note on terminology. Next, in Section 2.2, I will focus on omniscience and divine foreknowledge. Finally, in Section 2.3, I will address human freedom.<sup>2</sup>

<sup>1</sup> For divine foreknowledge see, Byerly (2014) and for human freedom see, Widerker and McKenna (2018).

<sup>2</sup> My focus in this essay is the foreknowledge and freedom problem specifically as a problem for traditional monotheism (namely, Judaism, Christianity, and Islam). It is important to note, however, at the outset that I am not committed to the claim that *all* versions of monotheistic religious traditions are committed to the central dogmas as defined in this essay. Indeed, details regarding some of the relevant dogmas involved may differ across various sects of any given monotheistic religion. However, many (most?) interpretations of the major religious traditions do seem to entail the central assumptions as defined. It is

## 2.1 Terminology

Following standard usage, a “truth-value gap” is a claim (sentence, proposition, etc.) that is neither true nor false. Dually, a truth-value glut is a claim (sentence, proposition, etc.) that is both true and false. In this essay, I will argue for a gap-theoretic account of divine omniscience (foreknowledge). That is to say, I will argue that there are certain claims in the language of the given theory (in our case, theology, or more specifically, divine omniscience) that are gappy (neither true nor false). As a matter of stylistic preference, when I say that “divine reality is gappy” or “omniscience is gappy” or “foreknowledge is gappy” or the like, this is simply shorthand for: “there are claims in the language of divine reality (or omniscience or foreknowledge) that are neither true nor false.” Ditto for “glutty” (i.e. there are claims in the theory that are both true and false). The relevance of these comments will become evident below.

## 2.2 Divine omniscience

Roughly, to say that God is omniscient is simply to say that God knows all truths. More specifically, for every proposition  $p$ , if  $p$  is true, then God knows that  $p$  (Wierenga, 2021). For example, if it is true that I am six feet, three inches tall, then God knows that I am six feet, three inches tall. If it is false that there is life in the Andromeda Galaxy, then God knows that it is false that there is life in the Andromeda Galaxy. God, because He is omniscient, thus knows every true proposition.<sup>3</sup> Stated formally:

**(Divine omniscience):** a being  $S$  is omniscient iff  $S$  knows all true propositions and does not hold any false beliefs.

The above definition is somewhat sparse. It isn’t sufficiently nuanced to address issues of God’s knowledge of first-person indexical, omnisubjectivity, *de se* and *de re* knowledge, impossible-to-know propositions, and so forth.<sup>4</sup> It is, however, sufficient for the task at hand, given that my focus is strictly on the foreknowledge and freedom problem. Before moving on, it is worth emphasizing that an important commitment of divine knowledge (omniscience) stated in the definition above is that

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Footnote 2 (continued)

this subset (however large) of the major monotheistic religions that I am concerned with and the central dogmas taking center stage in this essay — namely omniscience (divine foreknowledge) and human freedom — are defined accordingly. Thank you to a blind reviewer for pointing this out.

<sup>3</sup> The “capture” entailment pattern implicit here in no way suggests that the truth of  $p$  precedes God’s knowledge of  $p$ . This entailment pattern is simply making explicit the claim that God knows all truths and, thus, does not carry any temporal or causal ordering. One can, for example, believe that the truth of  $p$  depends on God’s knowledge of  $p$  and still embrace divine omniscience as expressed by the above “capture” entailment pattern.

<sup>4</sup> For a survey of many of the issues surrounding omniscience, see Wierenga (2021) and the citations therein.

it is impossible for God's beliefs to be false. Thus, God's belief that  $p$  entails  $p$  and this entailment pattern holds for any and all beliefs that God has.

A central component of divine omniscience is divine foreknowledge: the subset of God's knowledge that includes only *and all* true propositions about the future. This subset can be further divided into two smaller subsets: God's knowledge of fixed or determined future events, and God's knowledge of undetermined future events (otherwise called future contingents).<sup>5</sup> A future determined event is the result of either the blind forces of nature at work (say, the shifting of the tectonic plates in the Pacific Ocean), or God's will and power (God's predetermining from eternity past, for example, that Jesus would be crucified in the first century AD). Undetermined future events are those events which are neither necessary (inevitable) nor impossible (Øhrstrom & Hasle, 2020). In this paper, we will narrow our focus to future contingent propositions that describe human free actions. What I will choose to drink with my breakfast tomorrow, or the outfit I will choose to wear for the upcoming Halloween party are both examples of undetermined future free actions. When it comes to the foreknowledge and freedom problem, it is this latter set of future contingents we are concerned with, namely God's foreknowledge of future contingent free actions. Moving forward, when we use the term "future contingents," we take it to mean future contingent propositions concerned with human free actions.<sup>6</sup>

Importantly, God's being omniscient entails that he knows all true propositions about the past, present, *and future* (including those concerning human free actions). In other words, not only are there truths about contingent future states of affairs but, moreover, God's being omniscient entails that God has exhaustive knowledge of these propositions.

With this in mind, take  $S$  to be a free agent,  $A$  to be an action, and times  $t$  and  $t'$ , standing in the following temporal "earlier than" relation ( $t < t'$ ), where  $t$  occurs before  $t'$ . We can define divine foreknowledge as follows:

**(Divine foreknowledge):** Necessarily, God has foreknowledge iff if  $S$  will do  $A$  at  $t'$ , then God knows at  $t$  that  $S$  will do  $A$  at  $t'$ .<sup>7</sup>

Of course, the above definition generalizes to any true future free action. For example, if tomorrow, I will have lemonade with my lunch, then God knows now (and at any and all times prior to now) that tomorrow, I have lemonade with my lunch. In this paper, rather than arguing for divine foreknowledge, I will take it as

<sup>5</sup> One may question whether or not any event could really be fixed if there are future free actions. I believe so. First, the location of, say, the Andromeda Galaxy in relation to the Milky Way in 1000 years, seems to me to be a fixed matter. More down to Earth, various Scriptural texts suggest that God has fixed certain events in order to achieve certain outcomes, one example being God hardening the heart of Pharaoh in order to display his sovereign power. (Cf. Exodus 7:3–4; Romans 9:17–18).

<sup>6</sup> For an interesting and novel discussion on the nature of future contingents, see Beall (2012).

<sup>7</sup> It is possible, on standard ways of understanding restricted-quantification claims, that one can accept that God knows all true future contingents but, of course, reject that there are any future contingents that are true (and thereby acknowledge some "gappy" propositions). The position I am exploring involves the existence of some true future contingents. That is to say, there are true future contingent propositions describing what human creatures will freely choose to do in the future. My aim is not to argue for this sort of familiar view but instead try to advance a framework that accommodates it.

a foundational assumption (at least initially, for the sake of the theological fatalist argument).<sup>8</sup>

With the concept of divine foreknowledge in place, I now turn to analyze one further assumption central to the foreknowledge and freedom problem: human freedom.

### 2.3 Human freedom

The debate over the metaphysics of human freedom stretches back to the beginning of philosophy, making any brief summary of the issue difficult. Very roughly, the two main views regarding human freedom are compatibilism and incompatibilism. Compatibilists, generally speaking, reject the claim that the ability to do otherwise is a necessary condition for human freedom. To say that one has the ability to do otherwise is to say, roughly, that for any given action taken, one could have not done said action (more on this below). As will become evident, the foreknowledge and freedom problem does not arise for those who subscribe to compatibilism. Incompatibilists (at least the ones I will be considering), do consider the ability to do otherwise to be a necessary condition of human freedom.<sup>9</sup> Fortunately, when it comes to the foreknowledge and freedom problem, it is only this single condition (the ability to do otherwise) of human freedom that is implicated by the problem. Thus, my focus will be on incompatibilist accounts that entail the ability to do otherwise as a necessary condition for human freedom.<sup>10</sup>

To tease out this idea of the ability to do otherwise, it's helpful to look at some examples. On the assumed account of freedom, I am free to choose lemonade with my lunch only if I could choose something other than lemonade instead (say, coffee or juice). Another helpful way to think about this is in terms of subjective conditionals. My choice to drink coffee for breakfast this morning was a free choice only if, were we to rewind time to the seconds before I made that decision, leaving everything else fixed (the laws of nature, past history, etc.), I could have chosen something other than coffee.

Formally, we can define human freedom as follows:

<sup>8</sup> See Fischer and Todd (2015) for a robust treatment of divine foreknowledge and related issues.

<sup>9</sup> Incompatibilist views of human freedom can be further differentiated into two categories: source incompatibilism and leeway incompatibilism. Source incompatibilists argue that an agent is free in the relevant sense only if she is the source of her own actions (free from coercion, compulsion, cognitive impairment, etc.). Leeway incompatibilists, in contrast, hold that the ability to do otherwise is a necessary condition for human freedom. Thus, the views I will be focusing on are leeway incompatibilist views of human freedom. For more on this distinction see Kane (2011).

<sup>10</sup> One helpful resource (among many) surveying the landscape of the metaphysics of freedom is Kane (2011). For a shorter, more accessible resource, see Pereboom (2022).

**(Human freedom):** *S* is free with respect to action *A* only if *S* has the ability to do not-*A*.<sup>11</sup>

As mentioned, it is this account of human freedom that is implicated in the foreknowledge and freedom problem. As such, it will serve as a principal assumption in this paper. While I will not be providing a defense of this assumption, it is worth noting that, as Vicens and Kittle point out:

[A] reason for starting with this substantive, choice-based understanding of free will is that the most venerable theological puzzles concerning God and free will only arise – or at least, arise in their most difficult forms – given this understanding of free will. Thus, if the existence and nature of God can be shown to be compatible with this conception of free will, it is a safe bet that whatever the precise nature of free will turns out to be, it will be compatible with the existence and nature of God. (Vicens & Kittle, 2019: 2)

Thus, assuming the strongest notion of human freedom manifests the strongest version of the foreknowledge and freedom problem and, in turn, serves as motivation to embrace the explored solution on offer in this paper (if, of course, said solution is deemed successful). With the key terms and assumptions in place, I now turn to the theological fatalist argument.

### 3 The theological fatalist argument

A number of formal presentations of the theological fatalist argument can be found in the literature.<sup>12</sup> Many (most?) of these formal presentations tread on complex ingredients (distinctive modal operators, transfer principles, temporal indexation, and so forth). Here, for the sake of simplicity and space, I will present a streamlined example, stripped of any formulization, in order to demonstrate the inconsistent nature of divine foreknowledge and human freedom. See the various citations in this section for detailed (formal) presentations of the argument.

Let's say, at the creation of the world, God believed that tomorrow, I would choose to watch a Harry Potter movie with my son. When tomorrow arrives, I deliberate between watching a Harry Potter movie or *Night of the Living Dead* and, to my son's disappointment, choose (as God believed I would) Harry Potter. However, if *Night of the Living Dead* was really a live option for me to choose, then it would have to be the case that I could do something that would either change the belief that

<sup>11</sup> Generally, incompatibilist views of human freedom *don't entail* that in order for *any* action to be considered a free action, it must be the case that an agent has the ability to do otherwise with regard to said action. Usually it is some smaller subset of actions where the ability to do otherwise is necessary in order for a generally larger set of actions to be considered free. For example, actions that form one's character; a character out of which an agent will make future free choices where the agent doesn't have the ability to do otherwise. (See Kane (2002) for a version of this position). For the sake of simplicity and ease of reference, in this essay, I will set this nuance aside, and take "human freedom" to be synonymous with the ability to do otherwise.

<sup>12</sup> See, for example, Zagzebski (1991) and Fischer (2016).

God had at the creation of the world (the belief that I would watch Harry Potter), or do something that would entail that God had a false belief. The fixity of the past rules out the first disjunct. If some event  $E$  occurred in the past, then there is nothing one can do now to change the fact that  $E$  occurred. This leaves us with the second disjunct – I could have done something such that God would have had a false belief. However, this possibility is ruled out by divine omniscience. God cannot have a false belief. Revisiting our definition above, it is necessarily the case that God's forebelief at time  $t$  that  $S$  will do  $A$  at time  $t'$ , entails that  $S$  will do  $A$  at time  $t'$ . In other words, it is impossible for God to believe something will happen in the future and then for that event to not occur — God's beliefs cannot be false. Thus, it seems that I could do nothing other than what God forebelieved I would do (i.e. *Night of the Living Dead* was never a live option). Equally true, if *Night of the Living Dead* was a live option, then it is false that God had foreknowledge of what movie I would choose.

As mentioned, a multitude of solutions can be found within the canon of literature devoted to the foreknowledge and freedom problem.<sup>13</sup> That said, nothing close to consensus has been reached. In turn, as with the principal assumptions above, I will also be assuming (and not arguing for) the validity and soundness of the TFA. Specifically, divine foreknowledge and human freedom stand in contradiction. A commitment to divine foreknowledge entails that it is false that humans have freedom. The contrapositive is equally true: a commitment to human freedom entails that it is false that God has foreknowledge. Call the truth of both claims our theological fatalist lemma. With this in mind, to make the contradictory nature of foreknowledge and freedom explicit, I will now lay out what I will refer to as the theological fatalist contradiction (TFC).

### 3.1 Theological fatalist contradiction

We can formulate a derivation which makes explicit the inconsistency of divine foreknowledge and human freedom as follows.

1. God is omniscient.  
Source: Central dogma (assumption).
2. God's being omniscient entails that God has exhaustive foreknowledge.  
Source: Predicate entailment concerning omniscience.
3. God has exhaustive foreknowledge.  
Source: logical entailment from (1) and (2).
4. Humans are free, which requires having the ability to do otherwise.  
Source: Central dogma (assumption).
5. That humans are free entails that God does not have foreknowledge about future human actions.  
Source: Theological fatalist lemma.

<sup>13</sup> For a helpful survey of many of the contemporary solutions, see Vicens and Kittle (2019). For a recent, more in-depth analysis of these solutions, see De Florio and Frigerio (2019).



6. That God has foreknowledge entails that it is false that humans are free to do otherwise than what they do.  
Source: Theological fatalist lemma.
7. It is false that God has exhaustive foreknowledge.  
Source: (4) and (5).
8. It is false that humans are free.  
Source: (3) and (6).
9. It is true that God has exhaustive foreknowledge and it is false that God has exhaustive foreknowledge.  
Source: Logical entailment from (3) and (7).
10. It is true that humans are free and it is false that humans are free.  
Source: Logical entailment from (4) and (8).

The above derivation is fairly straightforward. Premises 1–4 are simply our assumed notions of divine omniscience (foreknowledge) and human freedom (as the ability to do otherwise). Assuming the validity and soundness of the TFA, premises 5–6 highlight the relevant entailments of the argument (i.e. foreknowledge is incompatible with human freedom and vice versa). Premises 7–8 follow from the relevant assumptions and the TFA, and premises 9–10 make explicit the contradictory nature of foreknowledge and freedom. So goes the familiar theological fatalist contradiction. Again, the TFC is used simply to demonstrate the inconsistent nature of divine foreknowledge and human freedom in light of the TFA.

With the principal assumptions (i.e. foreknowledge, freedom, and the TFC) defined and explicated, I now turn to explore a viable gap-theoretic solution to the problem.

## 4 Exploring a gap-theoretic solution

In this section, I will lay out Beall’s and Cotnoir’s gap-theoretic model (Sect. 4.1) and then move to extend their model to the foreknowledge and freedom problem (namely as a solution to the TFC, in Sect. 4.2).<sup>14</sup>

### 4.1 God of the gaps

Beall and Cotnoir provide a novel (and refreshing) framework for addressing long-standing omni-problems. While Beall and Cotnoir restrict the application of their work to what Nagasawa (2017) has termed “Type A” omni-problems (those problems which arise when considering a single divine attribute) — specifically, the paradox of the stone — there is, in principle, no reason their work cannot be extended.

<sup>14</sup> My aim in this section is to lay out Beall’s and Cotnoir’s model and extend it to the TFC without getting too hung up on the nuanced logical details (hopefully, making the exposition more accessible to the general philosophical community). For much more on the underlying logical ingredients/mechanics see Beall and Cotnoir (2017).

This essay will serve as a first step in this regard, exploring the application of Beall's and Cotnoir's work to Type C problems — those problems which arise when considering the relationship between divine attributes and matters of created (contingent) reality.

The central thesis of what I will call the Beall-Cotnoir model (BC model) is that so-called omni-problems are not necessarily “problems”, but evidence of the true nature of divine reality. Cutting to the heart of the matter, Beall and Cotnoir reject the traditional methodology of taking classical logic to be the one true logic for all theories, and then squeezing the phenomena present in a given theory within the logical bounds set by the classical account. Focusing specifically on theology, Beall and Cotnoir write, “On the proposed theology, God is responsible for logical consequence; and there's hardly any reason — theological or otherwise — to think that God demands [classical logic] (Beall & Cotnoir, 2017: 682).” With God setting the logical constraints, the truth-seeking theorist need not worry if the phenomena in a given theory (for our purposes, theology) don't fit within the classical account of logical consequence. Rather, it is quite the other way around. The phenomena present in a given theory act as a mirror, revealing the nature of the governing underlying account of logical consequence (which, on the BC model, is ultimately determined by God).

In other places, Beall and Cotnoir have argued for a rejection of the law of non-contradiction within the realm of theology.<sup>15</sup> That said, on the BC model, the authors go paracomplete, as opposed to paraconsistent and reject the universal applicability of the law of excluded middle (LEM) — roughly stated, either a proposition is true or its negation is true, but it is never the case that a proposition is neither true nor false (i.e. the rejection of truth value gaps).<sup>16</sup> As Beall and Cotnoir note, the invocation of the law of excluded middle is generally what gives rise to omni-problems. Witness the paradox of the stone, where either it is true that God can create a stone so heavy he cannot lift it *or* it is false that God can create a stone so heavy he cannot lift it. On the BC model, however, logic is paracomplete, allowing for truth-value gaps (more on this below). Thus, in light of the BC model, omni-problems, such as the paradox of the stone, again, need not be seen as problematic. Rather, they can be viewed as evidence of the nature of divine reality. Divine reality just is, in places, gappy.

The presence of gappy phenomena may mark a novel “discovery” within the realm of theology, but it is far from novel as a *phenomena simpliciter*. Indeed, a number of philosophers have argued that gappy (vague, fuzzy, etc.) phenomena are present all around us.<sup>17</sup> Take the famous sorites “paradox of the heap” as an example. We begin with two assumptions: (i) a single grain of wheat does not constitute

<sup>15</sup> See Beall (2021), Beall (Forthcoming), Beall and DeVito (Forthcoming), and Cotnoir (2017).

<sup>16</sup> Another quick note on terminology. Paraconsistent logics are those logics which deny the universal applicability of the law of non-contradiction. Paracomplete logics, as mentioned, reject the universal applicability of the law of excluded middle. Beall has utilized first-degree entailment (FDE) in much of his work (both theological and otherwise), which is both paraconsistent and paracomplete. See Beall (2019).

<sup>17</sup> For one prominent defender see Field (2008).

a heap, and (ii) something that isn't a heap cannot be transformed into a heap by the addition of a single grain of wheat. With these assumptions in mind, the paradox arises when trying to determine when, exactly, the addition of grains of wheat turns something that is not a heap into something that is. If the classical account of logic is correct, then the addition of a single grain of wheat must, at some point, transform something that is not a heap of wheat into something that is a heap of wheat. This, however, violates the common intuition (and assumption) that the addition of a single grain of wheat is too small (at any point) to turn something that is not a heap into something that is. Assuming we abide by the rules of classical logical deduction, the conclusion we will inevitably draw from the preceding is that a heap is not a heap. Of course, that's absurd. Obviously, a heap is a heap. Thus, according to some gap-theorists, there must be a gappy (vague) region of reality, where it is neither true nor false that the pile of grains of wheat is a heap.

Returning to the issue at hand, let us look at the BC model in more detail. The focus for Beall and Cotnoir is the paradox of the stone, which, as mentioned, asks whether God can create a stone so heavy that he cannot lift it. If God can, then there is something he cannot do: he cannot lift the stone. If, on the other hand, God cannot create such a stone, then again, there is something God cannot do: he cannot create the stone. Thus, on the truth of either disjunct, it turns out to be false that God is omnipotent.

On the BC model, limit claims on God's *omni-properties* are either just false, or gappy. As a principal example, Beall and Cotnoir argue that the paradox of the stone reveals an instance of the latter: it is neither true nor false that God can create a stone so heavy that he cannot lift it. The general idea is that, with a suitable sub-classical account of logical consequence in place (K3 logic in the case of Beall and Cotnoir),<sup>18</sup> one can deny that LEM is universally valid and affirm a robust account of God's *omni-properties*, even in the face of inconsistencies.

Beall and Cotnoir locate the gaps at the limits of God's *omni-properties*. Specifically:

If a limit claim  $L$  implies that God has limits, and the negation of  $L$  implies that God has limits, then  $L$  is gappy. Otherwise  $L$  is false. (Ibid., 5)

As it relates to the paradox of the stone, the two claims are:

- (L) God can create a stone which God cannot lift.
- $\neg$ (L) God cannot create a stone which God cannot lift.

Here, both  $L$  and  $L$ 's negation result in limitations on God's omnipotence (i.e. God either cannot create the stone, or, if he can, he cannot lift it). Thus, on the BC model, the official response to the stone problem is to treat the disjunction of  $L$  and  $L$ 's negation as gappy:

<sup>18</sup> See the appendix of Beall and Cotnoir (2017) for some of the mechanics of K3.

(Gappy stone): It is neither true nor false that God can create a stone so heavy that he cannot lift it.

As mentioned, assuming one's underlying entailment relation doesn't rule out gaps within the space of logical possibilities (and why should it?), a gap-theoretic response to the paradox of the stone results in a novel, motivated solution to the problem.<sup>19</sup>

An important aspect of the BC model worth highlighting before exploring any extension of the model, is the rejection of the truth (or falsity) of any claims which impose a limit on God's omnipotence. Beall and Cotnoir write, "[i]n keeping with the salient spirit of much traditional doctrine, commitment to God's omnipotence is at least partly reflected in our rejecting any would-be limit to God's power. *We reject as either false or gappy any claim that expresses a limit to God's power* (Ibid., 658. italics added)." Thus, on the BC model, omnipotence (or any divine attribute for that matter) is truly unrestricted: there are no true limits to God's divine attributes. Let's call this the no-limit principle. Generalizing to all of God's attributes, the no-limit principle can be explicitly stated as follows:

**(No-limit principle):** Any limit claim about God's divine attributes is either just false or gappy. It is never the case that a limit claim about any of God's divine attributes is true.

With the BC model in place, I turn to extend said model to the TFC.

## 4.2 A God of even more gaps

An application of the BC model to the TFC differs slightly from its application to the paradox of the stone since the latter paradox manifests when considering only one divine attribute; namely, omnipotence. In contrast, the problem of God's foreknowledge and human freedom arises as a result of the theological fatalist argument. It is important to note that the relevant claims, when taken individually (or in conjunction), are not necessarily problematic.<sup>20</sup> It is only in light of the theological fatalist argument (and, in turn, the TFC) that the paradox is derived. Thus, unlike Type A problems (i.e. the paradox of the stone), where the limits are explicit in the given claims ( $L$  and  $\text{not-}L$ ), the BC model's limit locating principle will need to be

<sup>19</sup> One may worry that any logical system (regardless of how weak) nevertheless imposes limits on God. Specifically, God must operate within confines of any assumed logical system and thus, even on the assumption that the BC model is correct, will still be limited in some sense. One response to this objection is to note that, on the BC model, God is prior to (and responsible for) logical space. Thus, any limits imposed by logic would ultimately have been imposed by God (with the implication being that God is responsible for, and therefore unrestricted by, the boundaries of logic). For more see Beall and Cotnoir (2017: 682). Thank you to a blind reviewer for this helpful comment.

<sup>20</sup> At this point, it is also worth noting that a "limit claim" for Beall and Cotnoir is any claim which purports to limit God's power (Beall and Cotnoir, 684). Given that my focus is on God's omniscience (foreknowledge), in the current context, limit claims are those claims which purport to limit God's omniscience. One could also adopt the broadest generalization that limit claims are any claims which purport to limit any of God's divine attributes.

slightly modified to account for the background argument deriving the paradox.<sup>21</sup> Take the following Type C limit locating principle:

Assuming the soundness of a paradox-deriving argument  $X$ , if a limit claim  $L$  implies that God has limits, and the negation of  $L$  implies that God has limits, then  $L$  is gappy. Otherwise  $L$  is false.

The above principle highlights the uniqueness of Type C omni-problems. Again, given that Type C problems are the result of certain commitments in *conjunction with an argument deriving a tension between said commitments*, the soundness of the argument must set the backdrop from within which the limit claims are being derived.<sup>22</sup> Specific to the problem under consideration, the soundness of the TFA (and, again, the TFC) must be assumed before evaluating the relevant claims that impose limits on God. And, as mentioned, I will be assuming the soundness of the TFA (and TFC).

With this mind, take the following " $L_C$ " claims, where the subscript denotes a Type C problem:

- ( $L_C$ ) God has exhaustive foreknowledge of all true future contingents describing human free actions (of which, there are some).  
 $\neg(L_C)$  God does not have foreknowledge of all true future contingents describing human free actions (of which, there are some).

Let's take each claim in turn.

First, if we assume  $L_C$  is true, then via the TFC, we reach a contradiction. On K3 logic, however, contradictions are still explosive: they entail any and every proposition in the language of the theory ( $\perp$ ). As such, on the proposed model, contradictions don't simply entail one limit claim; via explosion, they entail every limit claim on God's omni-properties (indeed, they entail any random claim whatsoever about anything). Thus, with contradictions ruled out of the space of logical (i.e. theological) possibility, God cannot have exhaustive foreknowledge of the future contingents describing human free actions (or,  $\neg L_C$ ).

If  $\neg L_C$  is assumed, however, then God does not have foreknowledge of future contingents describing human free actions. Assuming (as I am), that there are such future contingent propositions, this appears to represent a limit to God's omniscience

<sup>21</sup> Thank you to a blind reviewer for highlighting this very important point.

<sup>22</sup> Although, one could argue that the limit claims relevant to the paradox of the stone also require the assumption of an underlying paradox-deriving argument. Take (L): God can create a stone he cannot lift. It seems the tension here, while certainly *prima facie* more obvious than the foreknowledge and freedom problem, is nevertheless made explicit by the following underlying (assumed) argument:

1. If God cannot lift a stone he creates, then he is not omnipotent.
2. God cannot lift the stone he creates.
3. Therefore, God is not omnipotent.

Thus, it does seem that one must assume the soundness of the above argument in order for L to be considered a limit on God's omnipotence (obviously, if one modifies the premises of the argument, the same holds true if God cannot create the stone, or  $\neg L$ ).

and, in turn, violate the BC model's no-limit principle. A limit claim on any of God's *omni-properties* cannot be true. Thus,  $\neg L_C$ , in this case, cannot be true.

As a result, it seems as though asking if God has foreknowledge of future contingents describing human free action is similar to asking if he can create a stone so heavy that he cannot lift it: both scenarios result in limit claims on God's *omni-properties*. As such, a gappy approach à la Beall and Cotnoir, is a natural fit. Again, even though the structure of the TFC differs slightly from that of the paradox of the stone, the results seem to cash out the same: divine reality is gappy.

If one assumes any suitable paracomplete logic, then one can deny the universal applicability of LEM, specifically in theological cases of limit claims on God's *omni-properties*, and resolve TFC. Specifically:

**(Gappy foreknowledge):** Necessarily, for any divinely omniscient being *S*, it is neither true nor false that *S* has foreknowledge of future contingent propositions.

In the case of God, necessarily, God's being omniscient entails that for every true future contingent proposition *p* (of which, again, there are some) it is not the case that it is either true that God foreknows *p* or false that God foreknows *p*.<sup>23</sup>

A gap-theoretic solution via the BC model amounts to a rejection of premise (2) in the theological fatalist contradiction and a path out of the foreknowledge and freedom problem. While the traditional monotheist must still deny the truth of divine foreknowledge, she needn't embrace the falsity of divine foreknowledge. God's exhaustive divine foreknowledge is gappy: it is not true that God has foreknowledge of future contingents nor is it false that God foreknowledge of future contingents. This latter claim is important: the BC model provides for the traditional monotheist an unrestricted account of omniscience in that she need not embrace the falsity of divine foreknowledge.

#### 4.2.1 Unrestricted omniscience

The BC model, as a solution to the TFC, informs us of the fact that certain claims about divine foreknowledge are gappy — specifically, those claims which concern God's foreknowledge of future free actions. This entails a truly unrestricted account of omniscience — it is not the case that it is false that God has foreknowledge of future contingents.

A natural worry that may arise is what to make of omniscience. If certain claims about omniscience are gappy (i.e. if it is untrue that God knows certain things — namely, future contingents), doesn't that entail that it is untrue that God is omniscient? Doesn't one instance of untruth spoil the whole pot?

<sup>23</sup> Michael Dummett (2006) first gestured at the idea of the possibility of a three-valued logic being necessary (for various reasons) in order to accommodate the concept of divine knowledge. The proposal on offer in this paper can be seen as a first step towards cashing out the details of what such a proposal might look like.

Beall and Cotnoir address this concern by distinguishing between logical and extra-logical universal quantification. As it relates to *logic* — qua the basement-level account closing all of our true theories — within a K3 setting, the mechanics of universal quantification do work in such a way as to entail that the presence of gaps will take the semantic status of whatever is being quantified over to be gappy writ large. That said, a *very important* feature of subclassical theology (a la Beall and Cotnoir.)<sup>24</sup> is extra-logical, theory-specific theorizing, which allows for the incorporation of logical constraints that go beyond what is provided by one's underlying account of logic.

Witness, as a salient example of this practice at work, the theory of mathematics within subclassical settings. Many (though not all)<sup>25</sup> subclassical logicians view mathematics as a classically closed theory (it does not contain any truth-value gluts (i.e. true contradictions), or truth-value gaps). In turn, while logic qua universal account of closure may be subclassical, at the level of the theory (extra-logical), mathematics is classically closed and operates as such. Beall explains all of this well:

[T]rue mathematics, on my view, is classically closed; every true mathematical theory validates whatever classical logic validates for the logical vocabulary. How so?...such theories chop off large swaths of logical possibilities, treating them as T-impossible according to the given theory T; in particular, they chop off all of the glutty regions and gappy regions of logical space (the space of logic's many possibilities). But doing that is what's called for if, as current mathematics seems to reflect, the reality itself is without gaps or gluts. And all of this is perfectly natural with logic's recognition of a wider space. (Beall, [Forthcoming](#): 41)

The simple point is this: in subclassical settings, logic qua universal closure relation is not necessarily the same as logic qua theory (as it is within those systems which are classically closed qua universal closure relation). Our universal closure relation sets the widest space possible for all of our true theories, however, the theories themselves will inform us on how things operate at the level of a theory.<sup>26</sup>

As mentioned, Beall and Cotnoir define the semantics for the extra-logical (theological) universal quantifier differently than the K3 quantifier. Specifically, *theological* universal quantification amounts to this: for any predicate  $\Phi$  in the theory of God, using the BC models universal quantifier A (a flipped “ $\forall$ ”, though read standardly, “for all...”),  $Ax\Phi x$  is true iff there is no instance where  $\Phi x$  is false. On the BC model, theological universal quantification sees any gappy instance of  $\Phi x$  as true. In turn, one needn't worry about gappy instances of  $\Phi x$  “infecting” the corresponding

<sup>24</sup> Especially Beall. See Chapter 2 in Beall (2021) and Chapter 2 in Beall ([Forthcoming](#)).

<sup>25</sup> For one recent example to the contrary, see Weber (2021).

<sup>26</sup> For a more robust treatment of the logical and extra-logical distinction see Beall and Restall (2006).

divine attribute with wholesale gappiness. Specific to omniscience (K), the given sort of sentences (AxKx) are true iff there is no instance where Kx is false.<sup>27</sup>

## 5 Virtues

DeVito (2021) explores a glut-theoretic (contradictory) solution to the foreknowledge and freedom problem, one which entails an entanglement of the truth and falsity of divine foreknowledge with human freedom. Roughly stated, on DeVito's solution (embracing the TFC as evidence of the true nature of divine reality), it is both true and false that God has foreknowledge and, in turn, it is both true and false that humans have freedom (viz., the ability to do otherwise). More specifically, on the truth of God's foreknowledge, it is false that humans have freedom. Yet, on the falsity of God's foreknowledge, it is true that humans are free (in the relevant sense). Thus, foreknowledge and human freedom stand in a glutty entanglement of truth and falsity.

This entanglement, which is central to DeVito's model, leads to a plethora of further questions/problems, given the seemingly radical nature of the solution. It is one thing for divine reality to be glutty, yet, it is quite another to claim that human reality is also glutty. On the contrary, human reality seems consistent through and through. And it is not just DeVito's solution to the foreknowledge and freedom problem that entails (dare I say) radical consequences, *it is seemingly all glut-theoretic responses to Type-C problems, where the paradoxes which manifest are the result of God's nature entangled with human reality!*<sup>28</sup>

The solution on offer in this paper is, in principle, the dual to DeVito's solution. That said, the gap-theoretic approach restricts the gaps to the divine realm, instead of allowing them to bleed over into contingent human reality. It is neither true nor false that *God* has foreknowledge of future contingent propositions and, as a result, it is just true that humans have freedom. As such, the BC model makes for a much cleaner subclassical solution to the foreknowledge and freedom problem compared to its dual, glut-theoretic approach.

Moreover, the above proposal marks a novel middle ground between models of omniscience that hold fixed the truth of divine foreknowledge (at the price of either all of the issues the TFA brings with such a commitment, or on the loss of human freedom) and those models which hold fixed human freedom at the cost of the falsity of divine foreknowledge. On the proposed solution, one can circumvent

<sup>27</sup> One also needn't worry about the status of divine omniscience as defined above (specifically, the entailment pattern "God believes  $p$  entails  $p$ ") in light of instances of gappy beliefs. Let's step away from theology for a minute. Let " $\Box$ " be a standard necessity connective that satisfies release: from  $\Box p$  you get  $p$ . This can be the case even where necessity claims are gappy. You can still have the entailment. It just means that if you are looking for something that is going to establish the truth of  $p$ , the gappiness of  $\Box p$  won't do it. The same holds true for divine omniscience. An instance of a divine gappy belief (here, God's foreknowledge of human free actions) does not serve as a counter-example to the given "release" entailment pattern associated with divine omniscience.

<sup>28</sup> For an interesting glut-theoretic response that avoids this problem, see Beall (Unpublished Manuscript).



all issues related to the TFA, while at the same time not needing to embrace the falsity of divine foreknowledge. And while one may object that it still isn't *true* that God has exhaustive divine foreknowledge, such an objection only points to half of the story. It is also *not false* that God has exhaustive divine foreknowledge and it is this latter claim that is important. Thus, on a gap-theoretic model, it is not false that God knows the future. Not true, to be sure, but also not false. In the end, a novel picture of divine omniscience emerges, one that is truly unrestricted, yet not implicated by the foreknowledge and freedom problem.

## 6 Objections

*Objection:* Aren't some limit claims true of God? Wouldn't the traditional monotheist who holds to God's omnibenevolence, for example, say that God cannot do evil? More specific to the current discussion, isn't it true that omniscience entails that God cannot know what it's like to *not* know something? Surely, these limit claims, and examples of like kind, are true of God.

*Reply:* In response, Beall and Cotnoir state, "We reject that such considerations introduce genuine limits on God's power [or, equally so, God's knowledge]. (Beall & Cotnoir, 2017: 685, n. 3)." Given limitations of space, however, Beall and Cotnoir don't provide a defense of such a claim. Here, I will say a bit more in this regard.

As I see it, there are two possible avenues for dissolving this objection. In the spirit of Beall and Cotnoir, one approach is to argue that claims like "God cannot do evil" or "God cannot know what is like to be ignorant" do not represent genuine limits on God's omni-properties because they are "abilities" that arise only due to a lack of power or knowledge. It seems to get things backwards to suggest, for example, that the claim "it is false that I know what is it like *to not be able* to speak English" represents a limit to my knowledge. Indeed, if it were a genuine limit claim on knowledge, then an agent who spoke every language on earth would, in a certain respect, be considered as having greater ignorance than myself (who can only speak one language). This idea seemingly holds true for any other divine attribute: any "limit" claim that is the result of a deficiency in power, or love, or whatever, is not a genuine limit.

One issue with this response that requires further investigation, however, is determining why the claims made with regard to the paradox of the stone or TFC (or any other omni-paradox) do not fall under the same banner. In other words, why doesn't such a move work equally well in resolving other omni-paradoxes. I'm not arguing that there is no available response to this claim, but I will not take it up further here.

A second avenue for dissolving this objection is to simply embrace these claims as genuine limit claims, and, as a result, take the relevant disjunction as gappy. Take God's inability to sin as an example.

(L) God can sin

¬(L) It is false that God can sin.

If L, then God is not omnibenevolent (a commitment central to most, if not all, monotheistic theologies). If  $\neg L$ , then there is something God cannot do – namely, sin – and, in turn, God is not omnipotent. Thus, via the BC model, the disjunction:

God can sin or it is false that God can sin

is gappy. This approach seems both plausible, motivated (via the reasoning laid out above) and applicable (at least so far as I can tell), to any other limit claims one can muster against God's omni-properties.

## 7 Conclusion

The preliminary analysis offered in this essay of an application of Beall's and Cotnoir's gap-theoretic theology to the foreknowledge and freedom problem seems promising. As I have argued, not only does this extension of the BC model circumvent the foreknowledge and freedom problem, it also paints a novel picture of divine omniscience. Additionally, considering issues more abstractly, gap-theoretic solutions (à la the BC model) to type C omni-problems (like the foreknowledge and freedom problem) restrict the gappy phenomena to the divine realm (as opposed to glut-theoretic solutions to type C problem, where an entanglement of truth and falsity bleeds into contingent human affairs). The next step in this exploration will be to determine how (or if) a gap-theoretic solution can reasonably fit into Beall's larger contradictory theological project. I leave this work for another day.<sup>29</sup>

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